



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/532,673	04/26/2005	Michihiko Takase	2005_0642A	8711
513	7590	02/09/2009	EXAMINER	
WENDEROTH, LIND & PONACK, L.L.P.			BURKHART, ELIZABETH A	
2033 K STREET N. W.				
SUITE 800			ART UNIT	PAPER NUMBER
WASHINGTON, DC 20006-1021			1792	
			MAIL DATE	DELIVERY MODE
			02/09/2009	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/532,673	TAKASE ET AL.	
	Examiner	Art Unit	
	Elizabeth Burkhart	1792	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) Responsive to communication(s) filed on 26 November 2008.
- 2a) This action is **FINAL**. 2b) This action is non-final.
- 3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) Claim(s) 21-27 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) Claim(s) _____ is/are allowed.
- 6) Claim(s) 21-27 is/are rejected.
- 7) Claim(s) _____ is/are objected to.
- 8) Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) The specification is objected to by the Examiner.
- 10) The drawing(s) filed on _____ is/are: a) accepted or b) objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) All b) Some * c) None of:
1. Certified copies of the priority documents have been received.
 2. Certified copies of the priority documents have been received in Application No. _____.
 3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ . |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____ . | 6) <input type="checkbox"/> Other: _____ . |

DETAILED ACTION

1. Claims 21-27 are pending in the application. Cancelled claims 1-20 and new claims 21-27 are noted. The amendment filed 11/26/2008 has been entered and carefully considered.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

2. Claim 27 is rejected under 35 U.S.C. 102(b) as being anticipated by Shintani (JP 11-080952).

Shintani teaches an apparatus for depositing an MgO film for manufacturing a plasma display panel, the apparatus comprising: a deposition room, a gas introducing means (nozzle), an exhausting means (pressure control valve), a partial pressure detecting means (mass spectrometer), a vacuum degree detecting means (vacuum meter), and a controlling means for controlling the amount of gas introduced to said deposition room (mass flow controller) and for controlling the amount of exhausting gas (pressure computing unit) based on information from the partial pressure detecting means and vacuum degree detecting means [0002], [0004]-[0006].

Thus, Shintani discloses every limitation of claim 27 and thus anticipates the claim.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. Claim 21 is rejected under 35 U.S.C. 103(a) as being unpatentable over Shintani (JP 11-080952) in view of Okuyama et al (JP 2001-243886).

Shintani teaches a process for forming an MgO film onto a substrate of an AC type plasma display panel [0002] comprising: controlling a vacuum degree in the deposition room within a certain range, introducing oxygen into the deposition room, and controlling a partial pressure of the oxygen gas introduced to said deposition room within a certain range (Abstract). The oxygen partial pressure is kept within a certain range by controlling an amount of oxygen introduced into the deposition room while the deposition room is exhausted [0004].

Shintani does not disclose controlling the partial pressure of the gas introduced for controlling the oxygen deficiency in the metal oxide film.

Okuyama teaches a method for forming an MgO film on a plasma display panel (Abstract) wherein oxygen may be introduced during deposition in order to reduce the oxygen deficiency in said MgO film [0025].

It would have been obvious to one of ordinary skill in the art at the time of invention by applicant to use the relationship between oxygen gas and oxygen deficiency as suggested by Okuyama to control the oxygen deficiency in the MgO film in

the process of Shintani, such as reducing the oxygen deficiency, especially since Shintani teaches controlling the amount of oxygen introduced to the chamber.

Thus, claim 21 would have been obvious within the meaning of 35 USC 103 over the combined teachings of Shintani and Okuyama.

4. Claims 22, 25, and 26 are rejected under 35 U.S.C. 103(a) as being unpatentable over Shintani (JP 11-080952) in view of Okuyama et al (JP 2001-243886) as applied above and further in view of Kawakusu et al (JP 2000-277009).

Shintani and Okuyama do not teach the specific range at which the oxygen partial pressure is maintained. Okuyama teaches that the oxygen gas included in the vacuum chamber during deposition may be H₂O, CO, or CO₂ [0049], but does not teach the specific range at which the partial pressure is maintained.

Kawakusu teaches a method for forming an MgO film onto a substrate of an AC type plasma display panel while keeping the oxygen partial pressure within a range of 1x10⁻⁵-1x10⁻⁴ Torr (1.33x10⁻³-1.33x10⁻² Pa) (Abstract).

It would have been obvious to one of ordinary skill in the art at the time of invention by applicant to maintain the oxygen partial pressure of Shintani within the specific range suggested by Kawakusu since this range would have reasonably been expected to be suitable for deposition of an MgO film on AC type plasma display panels.

Regarding Claims 25 and 26, it would have been obvious to maintain the partial pressure of CO₂ and CO within the same range as specified in Kawakusu for oxygen since Okuyama teaches that these gases may be substituted for oxygen. The subject matter as a whole would have been obvious to one of ordinary skill in the art at the time

of invention by applicant if the overlapping portion of the partial pressure range disclosed by Kawakusu was selected because overlapping ranges have been held to be a *prima facie* case of obviousness, see *In re Wortheim* 191 USPQ 90.

Thus, claims 22, 25, and 26 would have been obvious within the meaning of 35 USC 103 over the combined teachings of Shintani, Okuyama, and Kawakusu.

5. Claim 23 is rejected under 35 U.S.C. 103(a) as being unpatentable over Shintani (JP 11-080952) in view of Okuyama et al (JP 2001-243886) as applied above and further in view of Shiokawa et al (US 2003/0077972).

Shintani and Okuyama do not disclose introducing water to the chamber within the specified partial pressure range.

Shiokawa teaches introducing a small amount of water vapor to the chamber during deposition of a protective layer for PDPs, such as MgO, in order to reduce impurities and reduce static electricity. Shiokawa also teaches that MgO has the property of absorbing water and by introducing larger amounts of water vapor may degrade its performances [0006]-[0007]. The partial pressure of water vapor during MgO deposition should be 10 mPa or lower (1×10^{-3} Pa or lower) (Abstract, [0013], [0017]).

It would have been obvious to one of ordinary skill in the art at the time of invention by applicant to introduce water during deposition of the MgO film as suggested by Shiokawa in the process of Shintani, wherein the water is introduced within a range of partial pressure that will not degrade the performance of the MgO film, in order to reduce impurities and static electricity. The subject matter as a whole would

have been obvious to one of ordinary skill in the art at the time of invention by applicant if the overlapping portion of the partial pressure range disclosed by Shiokawa was selected because overlapping ranges have been held to be a *prima facie* case of obviousness, see *In re Wortheim* 191 USPQ 90.

Thus, claim 23 would have been obvious within the meaning of 35 USC 103 over the combined teachings of Shintani, Okuyama, and Shiokawa.

6. Claim 24 is rejected under 35 U.S.C. 103(a) as being unpatentable over Shintani (JP 11-080952) in view of Okuyama et al (JP 2001-243886) as applied above and further in view of Furuya (JP 09-295894).

Shintani and Okuyama do not teach introducing hydrogen or that the partial pressure of hydrogen is kept within the claimed range.

Furuya teaches a method for forming an MgO film onto a plasma display panel wherein hydrogen or steam is introduced to the chamber in order to obtain an MgO film of high grade. Hydrogen or steam may be introduced at a partial pressure of 1×10^{-3} torr to 1×10^{-4} torr (1.33×10^{-2} Pa - 1.33×10^{-1} Pa) (Abstract, [0005]).

It would have been obvious to one of ordinary skill in the art at the time of invention by applicant to introduce hydrogen as suggested by Furuya in the process of Shintani in order to obtain an MgO film of high grade. The subject matter as a whole would have been obvious to one of ordinary skill in the art at the time of invention by applicant if the overlapping portion of the partial pressure range disclosed by Furuya was selected because overlapping ranges have been held to be a *prima facie* case of obviousness, see *In re Wortheim* 191 USPQ 90.

Thus, claim 24 would have been obvious within the meaning of 35 USC 103 over the combined teachings of Shintani, Okuyama, and Furuya.

Double Patenting

The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the “right to exclude” granted by a patent and to prevent possible harassment by multiple assignees. A nonstatutory obviousness-type double patenting rejection is appropriate where the conflicting claims are not identical, but at least one examined application claim is not patentably distinct from the reference claim(s) because the examined application claim is either anticipated by, or would have been obvious over, the reference claim(s). See, e.g., *In re Berg*, 140 F.3d 1428, 46 USPQ2d 1226 (Fed. Cir. 1998); *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) or 1.321(d) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent either is shown to be commonly owned with this application, or claims an invention made as a result of activities undertaken within the scope of a joint research agreement.

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

7. Claim 21 is provisionally rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claim 6 of copending Application No. 10/532672 in view of Shintani (JP 11-080952). The '672 application teaches a method of manufacturing a PDP comprising every limitation of claim 21 except the metal oxide being magnesium oxide and the partial pressure of the gas introduced being controlled within a certain range. Shintani teaches a method of manufacturing a PDP wherein an MgO film is formed as the metal oxide protecting layer. The partial pressure of the gas (oxygen) introduced is controlled within a certain range in order to obtain stable film

performance over a long time (Abstract, [0002], [0004]). It would have been obvious to one of ordinary skill in the art to control the partial pressure of the gas introduced in the process of the '672 application as suggested by Shintani in order to obtain stable film performance over a long time.

This is a provisional obviousness-type double patenting rejection.

Response to Arguments

8. Applicant's arguments are directed toward the new limitations in the claims which have been addressed in the rejections above.

Conclusion

9. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Elizabeth Burkhart whose telephone number is (571)272-6647. The examiner can normally be reached on M-Th 7-5:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Timothy Meeks can be reached on 571-272-1423. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Elizabeth Burkhart/
Examiner, Art Unit 1792

/Timothy H Meeks/
Supervisory Patent Examiner, Art Unit 1792